

Determination of Public Land (Rangeland) Health for 65024 MD LAND AND CATTLE

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these Standards.

Field assessment worksheets and other available data which evaluate the local indicators, were completed for this allotment. Based on the assessments, it is my determination:

1. Public Lands within the MD Land and Cattle Allotment #65024 North pasture do not meet the Upland and Biotic Standards; and 2. The remaining Public Lands within the MD Land and Cattle Allotment #65024 meet the Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) the Riparian Standard (on identified sites).

/s/ T. R. KREAGER

Assistant Field Manager

09/22/2003

Date

Standards of Public Land Health

Evaluation of 65024 MD LAND AND CATTLE

Allotment

[07/09/2003]

The Roswell Field Office conducted rangeland health assessments at five study sites within the MD LAND AND CATTLE Allotment #65024. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65024-EIGHTMILE-N009	X			X			N/A		
65024-NORTH-D054 (*)			X			X	N/A		
65024-NORTHWEST-N008 (*)	X			X			N/A		
65024-RIVER #1-D053	X			X			N/A		
65024-RIVER #2-N007 (*)	X			X	*		X	*	

Twenty-two (22) indicators for Rangeland Health were evaluated for the MD Land and Cattle allotment; 10 of these assessed soil/site stability, 11 assessed hydrologic functions and 13 assessed biotic integrity. These qualitative assessments along with quantitative information from long-term monitoring studies on five study areas, were utilized to assess the rangeland health of the public land within the allotment. These quantitative evaluations were performed by the Roswell Field office staff starting in the early 1980's. These included ground and vegetative cover and composition, production, frequency, and ecological condition as calculated from these collections which have been scheduled approximately every 5 years.

This allotment is comprised of upland sites which drain the the Pecos River and low lying bottomland sites adjacent to the Pecos River. The Eightmile Draw runs through the allotment which is a major drainage from the Haystack mountain area.

The area is utilized for livestock grazing, oil and gas production, and recreation (hunting and OHV use).

The current livestock management of the area includes pasture rotation, determined by pasture location, time of year and precipitation. The low lying areas contain the native vegetation goldenrod which is toxic to livestock during the dormant season. Pastures in the floodplain are generally grazed during the growing season, and upland pastures are generally used during the dormant season. There are a five pastures within this allotment, two in the sandy uplands and three in the floodplain.

The entire allotment area has invasive mesquite which has increased in density over time. There are areas which have mesquite densities that are prohibitive to herbaceous vegetation. These areas are identified within the worksheet summaries.

Also present is salt cedar within draws, drainages and the Pecos River floodplain. Some limited mechanical salt cedar removal has been accomplished within this allotment along the El Paso pipeline right-of-way. The mechanical removal makes a tremendous difference in the density, and follow up chemical spot treatments should maintain the project.

Prescribed fire has also been used along the Pecos River and the adjacent floodplains to keep densities of salt cedar and mesquite lower. The prescribed fire use has been moderately successful in the mesquite grassland, but the salt cedar densities along the river remain quite high.

This allotment has had one area which was treated for mesquite in the early 1980's. This area is referred to as the North pasture within this document. This area still has high densities of mesquite and high amounts of bare ground.

Currently, the majority of this allotment would be a good candidate for mesquite treatment. The herbicides available and procedures to prescribe grazing rest should adequately ensure response by desirable vegetation. Most of the area also has a seed source available for the propagation of herbaceous vegetation. The land status and relatively small allotment size will complicate planning for future treatments.

Salt Cedar is also dominating the riparian areas and draws. Salt cedar populations in this area are good candidates for mechanical, chemical or prescribed fire projects.

The North pasture area is in poor condition at this time. Biotic and Hydrologic functions are rated at moderate to moderate to extreme in almost all of the applicable indicators. The field examiners feel that this is a result of poor precipitation and high grazing use after the treatment. No documentation was found within the BLM files which may help explain conditions within this pasture. This area does not meet the standard for upland health and should have management actions initiated to remedy the conditions.

Other assessed areas within this allotment meet the Upland and Biotic standards. The Riparian standard, as applied to the River#2 location, meet the Riparian Standard but have the potential for improvement with the implementation of treatments to control/reduce invasive vegetation species.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Bare Ground
- Gullies
- Litter Movement
- Soil Surface Resistance to Erosion
- Plant Community Composition and Distribution Relative to Infiltration and Runoff
- Functional/Structural Groups
- Litter Amount
- Annual Production
- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: Invasive species should be the highest priority for management actions within this allotment. Carefully planned and coordinated projects would benefit the area greatly. By controlling salt cedar in the riparian corridor, and mesquite in the adjacent uplands, this area should flush with herbaceous vegetation. This action would aid in soil stabilization, reduction of surface water run-off and benefit wildlife and livestock. Lower lying areas within and close to the floodplain should be a higher priority. This is due to the fact that these areas tend to receive more moisture from adjacent uplands or are sub-irrigated.

The grazing allotment is relatively small and coordination with the grazing permittee would have to be completed to ensure effectiveness. Grazing deferment, especially during the growing season is very important to project success. The small pasture sizes and the deferment requirements may lead to potential conflicts, however the end results should outweigh the short-term inconveniences.

Efforts to maintain and properly drain existing roads would be helpful in slowing soil erosion.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65024-EIGHTMILE-N009						
Legal Land Desc	SENW 5 0080S 0260E Meridian 23		Acreage		633	
Ecosite	042CY004NM SANDY SD-3		Photo Taken		N	
Watershed	13060003220 FILLMORE					
Observers	SCHMIDT, BAGGAO		Observation Date		07/31/2003	
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	PBB		Soil Taxon Name		PAJARITO	
Texture Class	NM644 FSL		Soil Phase		PAJARITO-BLUEPOINT	
Texture Modifier	NM644 FINE SANDY LOAM,HU					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	12.1		NOAA Growing Season Precipitation		7.75	
NOAA Avg Annual Precipitation	12.8		NOAA Avg Growing Season Precipitation		10.44	
Disturbances and Animal Use:	The current grazing permittee rotates livestock within this allotment. There are no livestock currently in this pasture, it is utilized primarily during the dormant season and some springtime use.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:	Hummocky area, mesquite					
S H	Water Flow Patterns			X		
Comments:	evident, primarily associated with scbr spp.					

S H	Pedestals and/or Terracettes			X		
Comments:	evident especially around burrograss.					
S H	Bare Ground			X		
Comments:	Bare areas in mesquite interspaces.					
S H	Gullies				X	
Comments:	Gully formation influenced by county road. Gullies more common away from study site near the county road.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:	Past formation evident due to mesquite hummock formations.					
H	Litter Movement				X	
Comments:	General lack of fine litter, drought related.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:	Past soil loss evident due to hummocks.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments:	Bush Muhly (Mupo) present in mesquite. Areas with bare interspaces are showing less infiltration.					
S H B	Compaction Layer				X	
Comments:						
B	Functional/Structural Groups			X		
Comments:	Species are present, relative amounts out of balance. Area shows upward trend, mesquite densities are high, grasses are OK considering drought conditions.					
B	Plant Mortality/Decadence					X
Comments:	Less than 20% dead or decadent					
H B	Litter Amount			X		
Comments:	Overall lack of litter, drought influenced. Observers disagreed with Range site guide, it calls for too much litter in this site.					
B	Annual Production			X		
Comments:	Drought influenced, mesquite invaded. This is toward the moderate end of the scale. One year of monitoring data will not show trend.					

B	Invasive Plants			X		
Comments:	Mesquite, snakeweed.					
B	Reproductive Capability of Perennial Plants			X		
Comments:	Drought influenced.					
S	Physical/Chemical/Biological Crusts				X	
Comments:						
B	Wildlife Habitat				X	
Comments:	Grass uplands on top of the terrace above the river valley. Of significance is Eight Mile Draw. See Site Notes.					
B	Wildlife Populations				X	
Comments:	No specific wildlife information. Species of concern are mule deer, upland game birds and nongame terrestrial wildlife species.					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	3	6	1
H	Hydrologic	0	0	5	5	1
B	Biotic	0	0	5	5	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that

lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	3	7
Hydrologic		0	5	6
Biotic		0	5	8

Site Notes: Wildlife and TE - Eightmile Draw traverses the pasture. It is a deep and narrow sandy bottom drainage with occasional rock outcrops. Most of the year the draw does support pools of water. The draw is invaded by saltcedar and the major impacts appears to be off-highway vehicle use between the county road and the OHV boundary to the east. Access to the draw may occur from the Haystack Mountain OHV area to the east. Need to curtail OHV use in the draw and conduct saltcedar control to allow riparian vegetation to become established. This draw should be considered potential habitat for the Pecos sunflower.

Range Notes - The uplands within this pasture are relatively stable and appear to be in an upward trend. There is four wing salt bush mixed with mesquite in the area. The mesquite is dense enough to consider treatment, and the sandy soils should respond to treatment well. If a treatment is implemented, grazing deferment will have to be in place to ensure proper recovery.

There is active erosion within the area, primarily associated with roads. The County road channels the water and increases velocities causing gully formation. Oil and Gas roads that are not constructed or maintained properly also add to the erosion problems. Smaller scale water flow patterns do exist, but are minor in comparison to the large gullies associated with the roads.

Current grazing practices include pasture rotation, and this pasture is normally used in the dormant season.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65024-NORTH-D054						
Legal Land Desc	NESE 5 0080S 0260E Meridian 23		Acreage		1490	
Ecosite	042CY004NM SANDY SD-3		Photo Taken		N	
Watershed	13060003220 FILLMORE					
Observers	SCHMIDT/BAGGAO		Observation Date		07/10/2003	
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	PBB		Soil Taxon Name		PAJARITO	
Texture Class	NM644 FSL		Soil Phase		PAJARITO- BLUEPOINT	
Texture Modifier	NM644 FINE SANDY LOAM,HU					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	12.1		NOAA Growing Season Precipitation		7.75	
NOAA Avg Annual Precipitation	12.8		NOAA Avg Growing Season Precipitation		10.44	
Disturbances and Animal Use:	This area was grazed last winter and early spring. No re-growth has occurred, area looks very droughty.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills				X	
Comments:	Rills more common close to draw.					
S H	Water Flow Patterns			X		
Comments:						

S H	Pedestals and/or Terracettes			X		
Comments:						
S H	Bare Ground		X			
Comments:	Prevalent bare ground.					
S H	Gullies		X			
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas			X		
Comments:						
H	Litter Movement		X			
Comments:						
S H B	Soil Surface Resistance to Erosion		X			
Comments:	Bare ground prevalent.					
S H B	Soil Surface Loss or Degradation			X		
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff		X			
Comments:	Invader or increaser species common, mesquite, snakeweed. low infiltration.					
S H B	Compaction Layer				X	
Comments:						
B	Functional/Structural Groups		X			
Comments:	Lack of grama species and other desireables.					
B	Plant Mortality/Decadence				X	
Comments:	only present, currently growing vegetation, too much bare ground. This indicates past problems with management.					
H B	Litter Amount		X			
Comments:	Very little litter present.					
B	Annual Production		X			
Comments:	Low production, droughty and too much bare ground.					
B	Invasive Plants		X			
Comments:	Common, mesquite and snakeweed.					
B	Reproductive Capability of Perennial Plants			X		

Comments:	Soil conditions limit seed germination.					
S	Physical/Chemical/Biological Crusts			X		
Comments:	Do not expect crusts in sandy soils.					
B	Wildlife Habitat			X		
Comments:	Appears to be a post mesquite treatment pasture. The gently sloping upland is on top of the breaks of the Pecos River. The grassland habitat type has been re-invaded by mesquite.					
B	Wildlife Populations			X		
Comments:	No specific wildlife information. Species of concern include upland game birds and a variety of nongame terrestrial species.					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	3	5	2	0
H	Hydrologic	0	6	3	2	0
B	Biotic	0	5	4	2	2

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

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Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		3	5	2
Hydrologic		6	3	2
Biotic		5	4	4
<p>Site Notes: This site was treated for mesquite in the early 1980's. Poor conditions due to lack of forage species and high amounts of bare ground. Study located adjacent to fence which tends to congregate livestock. County road influences this site. Very good candidate for brush control, but will require adequate grazing rest. Drought conditions prevalent in area and conditions are not favorable for water infiltration to benefit vegetation.</p>				

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65024-NORTHWEST-N008						
Legal Land Desc	NWNW 6 0080S 0260E Meridian 23		Acreage	49		
Ecosite	042CY017NM BOTTOMLAND SD-3		Photo Taken	N		
Watershed	13060003220 FILLMORE					
Observers	SCHMIDT/BAGGAO		Observation Date	07/31/2003		
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	GHA		Soil Taxon Name	GLENDALE		
Texture Class	NM644 SIL		Soil Phase	GLENDALE-HARKEY		
Texture Modifier	NM644 SILT LOAM					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	12.1		NOAA Growing Season Precipitation	7.75		
NOAA Avg Annual Precipitation	12.8		NOAA Avg Growing Season Precipitation	10.44		
Disturbances and Animal Use:	This area is used during the growing season due to the goldenrod that exists in the area. It is a productive site due to the proximity to the Pecos River (some subirrigation) and that it recieves run-off from adjacent uplands. Increasing woody brush includes salt cedar and mesquite. Very good candidate for brush control.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						

S H	Water Flow Patterns					X
Comments:						
S H	Pedestals and/or Terracettes			X		
Comments:						
S H	Bare Ground			X		
Comments:	This call based on monitoring data, visual on-site conditions appear better.					
S H	Gullies				X	
Comments:	Few observed.					
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:						
S H B	Soil Surface Resistance to Erosion					X
Comments:						
S H B	Soil Surface Loss or Degradation					X
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:	Salt cedar and mesquite present. Concentrations in certain areas, minimal impact to infiltration.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	Salt cedar invaded areas we would expect to find giant sacaton.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:	Disagree with monitoring study, good litter present.					
B	Annual Production			X		
Comments:	Drought influenced, current greenness and growth encouraging.					
B	Invasive Plants		X			
Comments:	Salt Cedar and mesquite, some goldenrod.					

B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts					X
Comments:						
B	Wildlife Habitat				X	
Comments: A floodplain grassland habitat type invaded by mesquite and saltcedar. The Pecos River is adjacent to the pasture. Old cultivated fields are adjacent to the study area. Some oil and gas activity and roads in area.						
B	Wildlife Populations				X	
Comments: No specific wildlife information. Species of concern include mule deer, neotropical migrants using the river corridor, exotic wild pigs, and a variety of nongame terrestrial species.						
B	Special Status Species Habitat					X
Comments: None known to occur.						
B	Special Status Species Populations					X
Comments: None known to occur.						
Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	2	1	7
H	Hydrologic	0	0	2	3	6
B	Biotic	0	1	2	3	7
B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the <i>Does not Meet</i> column, Moderate becomes <i>May Need More Info</i> , and Slight to Moderate and None to Slight merge to form the <i>Meets</i> columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that						

lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	2	8
Hydrologic		0	2	9
Biotic		1	2	10

Site Notes: This site looks good given the overall drought conditions. Very good candidate for brush work due to abundant seed sources of preferable plant species.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65024-RIVER #1-D053						
Legal Land Desc	NESE 12 0080S 0250E Meridian 23		Acreage	695		
Ecosite	042CY033NM SALTY BOTTOMLAND S		Photo Taken	N		
Watershed	13060003220 FILLMORE					
Observers	SCHMIDT/BAGGAO		Observation Date	07/10/2003		
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	GHA		Soil Taxon Name	GLENDALE		
Texture Class	NM644 SIL		Soil Phase	GLENDALE-HARKEY		
Texture Modifier	NM644 SILT LOAM					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	12.1		NOAA Growing Season Precipitation	7.75		
NOAA Avg Annual Precipitation	12.8		NOAA Avg Growing Season Precipitation	10.44		
Disturbances and Animal Use:	This area had decent precipitation last growing season as evidenced by good standing grass cover. Area was not grazed until mid June and will remain through the end of the growing season. This area does contain goldenrod, so winter use is not always feasible.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:	Flat					
S H	Water Flow Patterns					X
Comments:						

S H	Pedestals and/or Terracettes					X
Comments:						
S H	Bare Ground					X
Comments:						
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas					X
Comments:						
H	Litter Movement					X
Comments:						
S H B	Soil Surface Resistance to Erosion					X
Comments:						
S H B	Soil Surface Loss or Degradation					X
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer				X	
Comments:						
B	Functional/Structural Groups				X	
Comments:	Missing Vine mesquite grass, lack of blue grama. Mesquite encroaching from uplands.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:						
B	Annual Production				X	
Comments:	Obvious good precipitation last growing season, light grazing.					
B	Invasive Plants			X		
Comments:	Mesquite surrounds this bottomland site.					
B	Reproductive Capability of Perennial Plants				X	

Comments:	Somewhat limited due to dominance of alkali sacaton.					
S	Physical/Chemical/Biological Crusts					X
Comments:						
B	Wildlife Habitat					X
Comments:	Floodplain grassland habitat situated between the Pecos River and uplands. Mesquite invading periphery of grasslands, saltcedar invasion along river. Riparian habitat along river. Major EPNG pipeline crossing. Area due north of the BLNWR. Past prescribed fires in are					
B	Wildlife Populations				X	
Comments:	No specific wildlife information. Breeding bird surveys were conducted this past summer but final report not out. Species of concern include mule deer, grassland bird species, neotropical migrants using river corridor, aquatic species in river.					
B	Special Status Species Habitat					X
Comments:	Pecos River and associated riparian zone.					
B	Special Status Species Populations					X
Comments:	Area has been surveyed for Pecos sunflower but none found. Pecos bluntnose shiner surveys have been conducted by the USFWS, populations as expected for this river reach.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	1	9
H	Hydrologic	0	0	0	3	8
B	Biotic	0	0	1	6	6

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the

ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	1	12

Site Notes: Area looks good, no obvious soil movement.

Good current grass cover of alkali sacaton.

Within this pasture, sandy soils exhibiting heavy invasion of mesquite (not within this range site).

Good candidate for prescribed fire, burned in the past. This may be reason that mesquite is in low abundance in the bottomland.

Wildlife and TE Species - The entire grassland habitat needs to be maintained to either eradicate invading mesquite or reduce density. Mesquite encroachment on all edges of grassland. Seasonal grazing recommended for pasture following vegetative treatments. This pasture has been targeted for saltcedar eradication using FY04 HFR funds.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65024-RIVER #2-N007						
Legal Land Desc	SESW 12 0080S 0250E Meridian 23		Acreage		694	
Ecosite	042CY017NM BOTTOMLAND SD-3		Photo Taken		N	
Watershed	13060003220 FILLMORE					
Observers	SCHMIDT/BAGGAO		Observation Date		07/10/2003	
County Soil Survey	NM644 CHAVES NORTH		Soil Var/Taxad			
Soil Map Unit	USA		Soil Taxon Name		USTIFLUVENTS	
Texture Class	NM644 SIL		Soil Phase		USTIFLUVENTS	
Texture Modifier	NM644 LOAM					
Observed Avg Annual Precipitation			Observed Avg Growing Season Precipitation			
NOAA Annual Precipitation	12.1		NOAA Growing Season Precipitation		7.75	
NOAA Avg Annual Precipitation	12.8		NOAA Avg Growing Season Precipitation		10.44	
Disturbances and Animal Use:	Livestock currently in pasture, shows light use. This assessment area is within the same pasture as River #1, please see notes on that assesment as well. This assesment site is located near an existing gas well, there are roads and pads within the area.					
Part 2. Attributes and Indicators						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						

S H	Pedestals and/or Terracettes				X	
Comments:	Slight, cattle trails, water flow patterns.					
S H	Bare Ground				X	
Comments:						
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:	old depositional floodplain, river movement.					
H	Litter Movement					X
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:	invasives play a role here, some soil movement in plant interspaces.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments:	invasives have changed character.					
S H B	Compaction Layer				X	
Comments:						
B	Functional/Structural Groups		X			
Comments:	Towards moderate, invasives have changed character of landscape.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount				X	
Comments:						
B	Annual Production			X		
Comments:	Mesquite is impacting overall production.					
B	Invasive Plants	X				
Comments:	Salt Cedar, Mesquite, Goldenrod. Leaning towards moderate/extreme, good candidate for treatment.					
B	Reproductive Capability of Perennial Plants			X		

Comments:	invasives occupying habitat for other vegetative species.					
S	Physical/Chemical/Biological Crusts					X
Comments:						
B	Wildlife Habitat			X		
Comments:	Pecos River floodplain and riparian zone heavily invaded by saltcedar and mesquite. Most floodplain should be grassland with bacharris and 4-wing saltbush. Riparian habitat found along the Pecos River. Some oil and gas wells near river channel. Major EPNG pipeline traverses area.					
B	Wildlife Populations			X		
Comments:	No specific wildlife information. Breeding bird surveys were conducted this past summer but final report not out. Species of concern include mule deer, grassland bird species, neotropical migrants using river corridor, aquatic species in river.					
B	Special Status Species Habitat			X		
Comments:	Pecos River and associated riparian habitat. Riparian area degraded by saltcedar and mesquite invasion.					
B	Special Status Species Populations					X
Comments:	Area has been surveyed for Pecos sunflower but none found. Pecos bluntnose shiner surveys have been conducted by the USFWS, populations as expected for this river reach.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	7	3
H	Hydrologic	0	0	1	7	3
B	Biotic	1	1	5	4	2

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the

determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

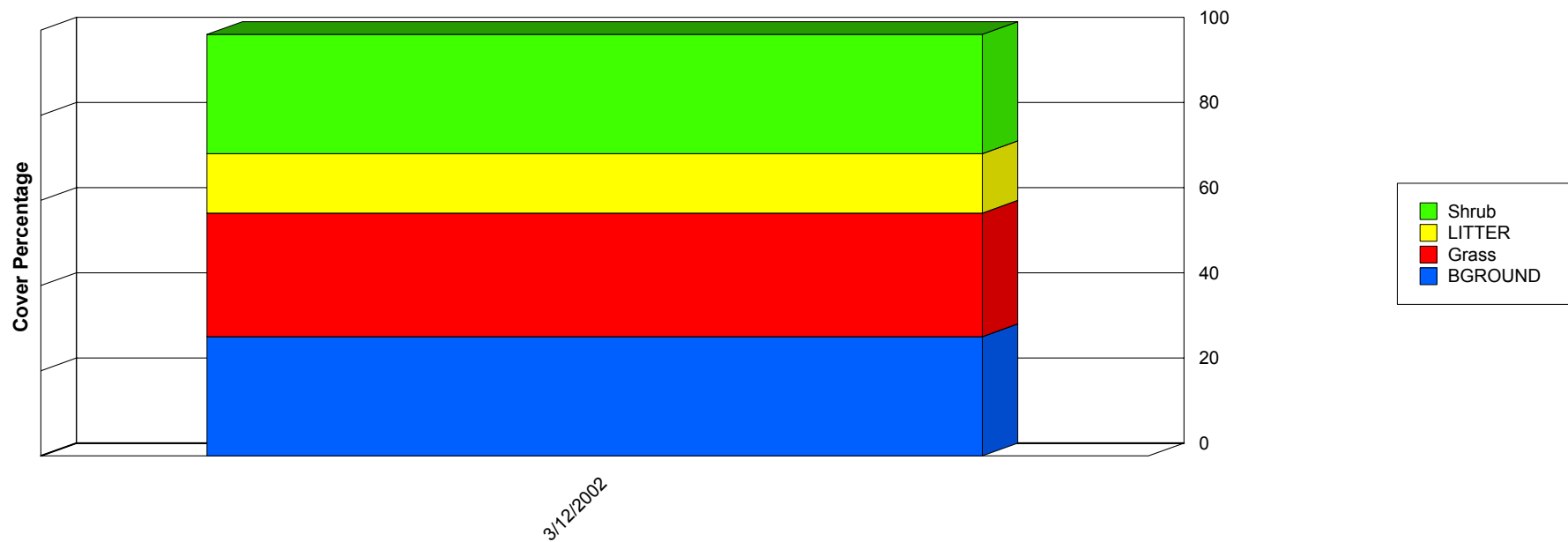
Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	1	10
Biotic	This location is heavily invaded by invasive species. Area needs to be monitored for the need for, and effectiveness of future management actions.	2	5	6

Site Notes: Good candidate for treating invasive species through various means; fire, mechanical, herbicide.

Invasives prevalent, scattered oil and gas facilities and El Paso PL Right of Way.

Wildlife and TE Species - This area has been targeted for FY04 HFR funds to eradicate saltcedar. Refer to rangeland data for information supporting the call. Some saltcedar work has been conducted under and adjacent to the pipeline crossing. young saltcedar needs post treatment this September. A small drift fence needs to be constructed to keep livestock off of the pipeline ROW until grasses recover.

Ground Cover Trends

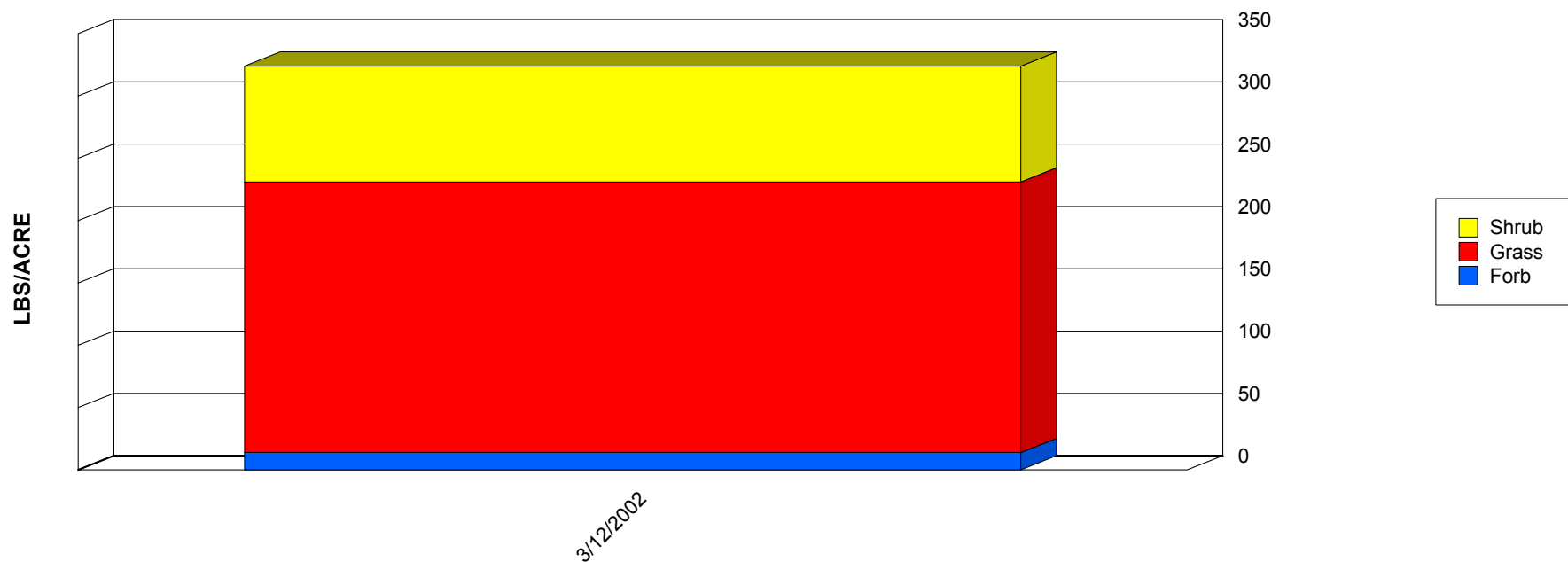


	3/12/2002
BGROUND	28.00
Grass	29.00
LITTER	14.00
Shrub	28.00
Total	99.00

Report Parameters

SITE NAME LIKE 65024-EIGHTMILE-N009
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002

Production Lbs/Acre Trends

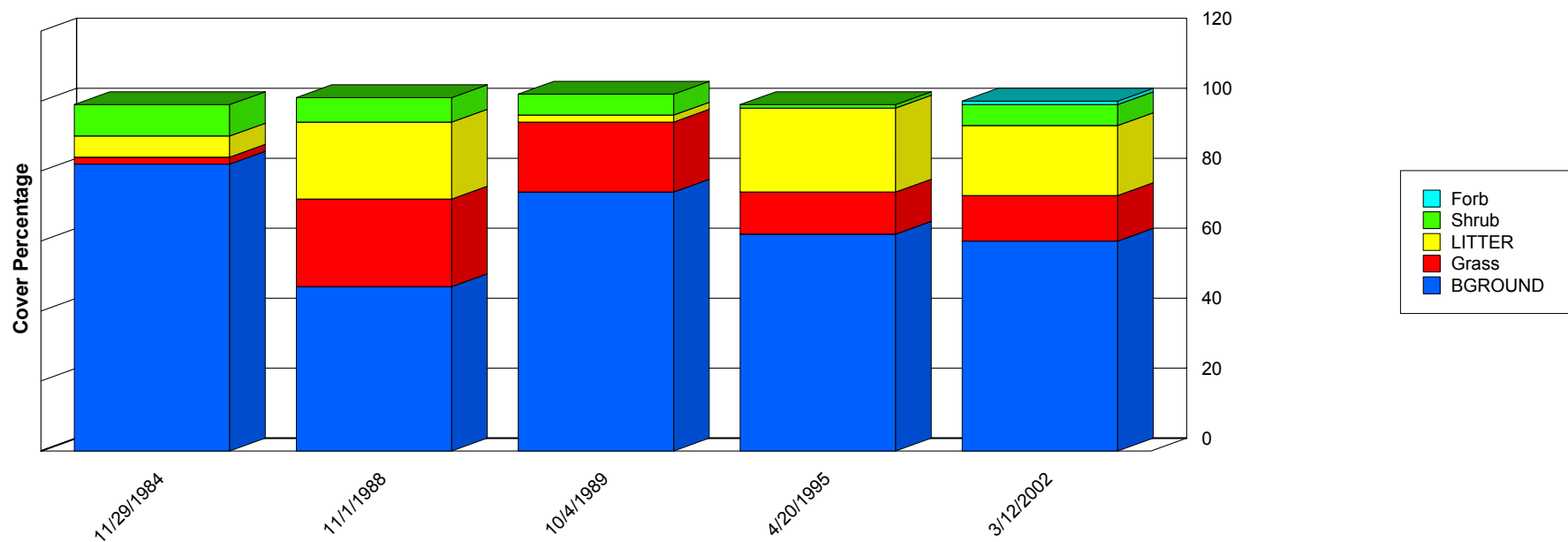


	3/12/2002
Forb	14.00
Grass	217.00
Shrub	93.00
Total	324.00

Report Parameters

SITE NAME LIKE 65024-EIGHTMILE-N009
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002

Ground Cover Trends



	11/29/1984	11/1/1988	10/4/1989	4/20/1995	3/12/2002
BGROUND	82.00	47.00	74.00	62.00	60.00
Forb	0.00	0.00	0.00	0.00	1.00
Grass	2.00	25.00	20.00	12.00	13.00
LITTER	6.00	22.00	2.00	24.00	20.00
Shrub	9.00	7.00	6.00	1.00	6.00
Total	99.00	101.00	102.00	99.00	100.00

Report Parameters

SITE NAME LIKE 65024-NORTH-D054
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002

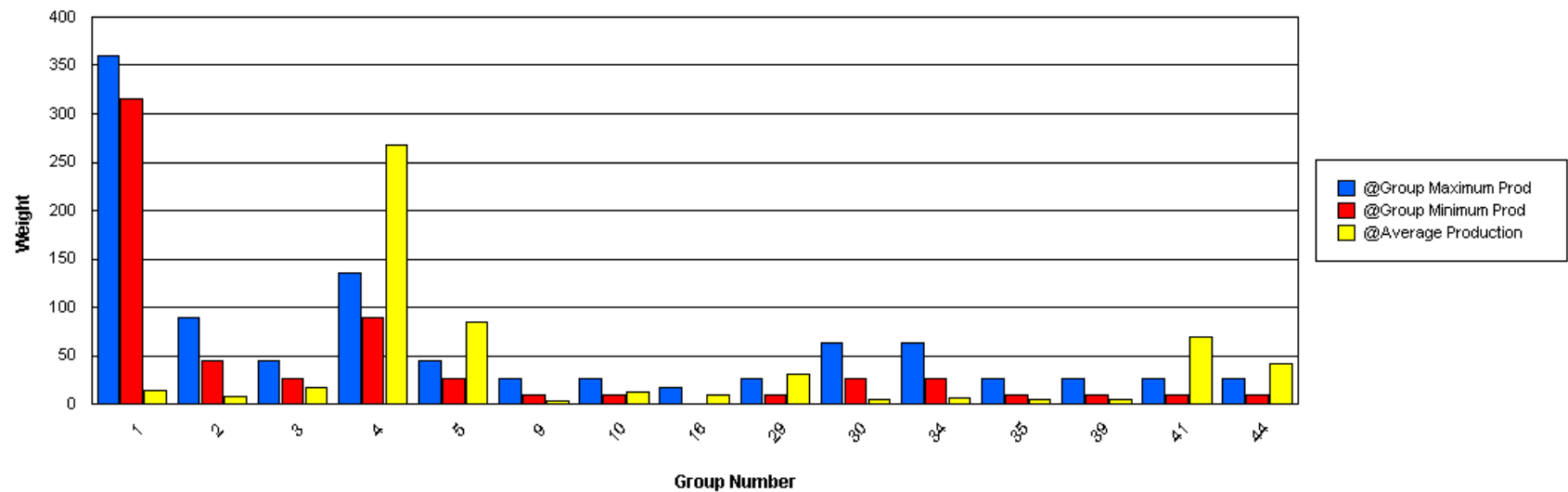
Functional / Structural Groups

Report Parameters

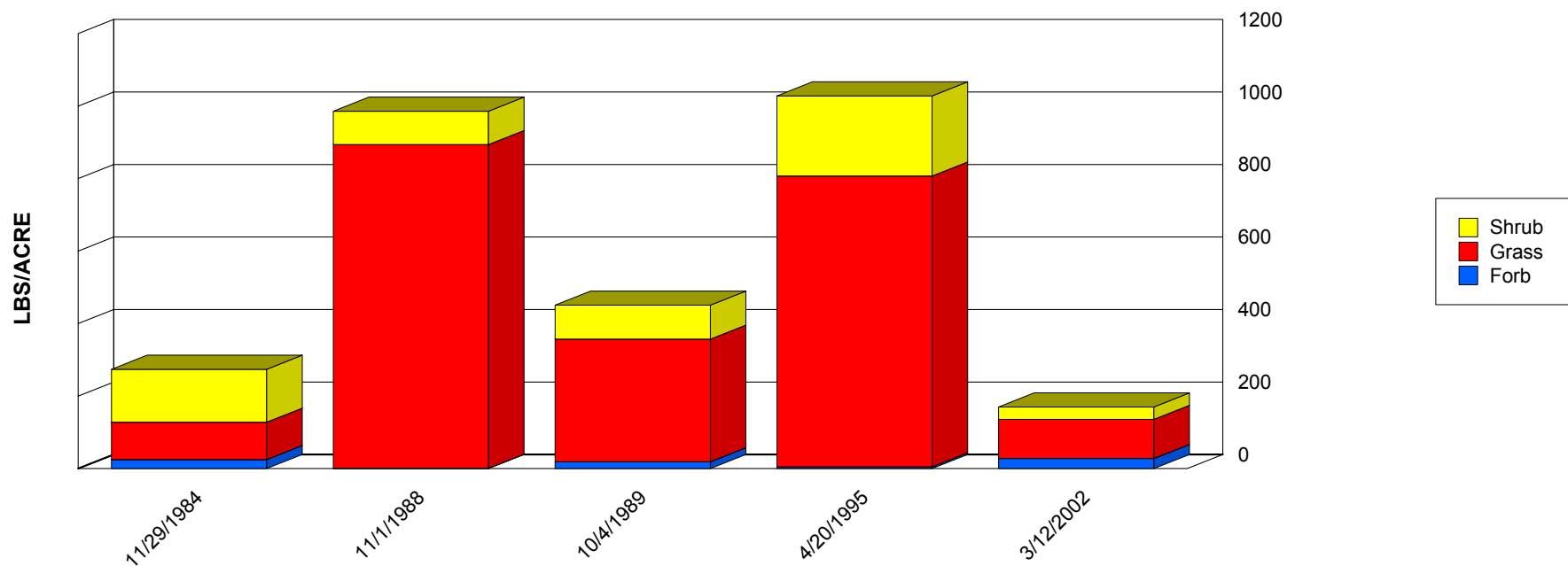
SITE NAME LIKE 65024-NORTH-D054
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002
 MIN LBS TO GRAPH 3
 SELECTED ECOSITE 042CY004NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	BOER4	315	360	0.00	46.00	14.60	16.56
2	Grass	BOGR2	45	90	0.00	18.00	7.50	6.54
3	Grass	MUPO2	27	45	0.00	37.00	16.60	11.98
4	Grass	SPCR	90	135	0.00	864.00	268.40	321.31
5	Grass	ARIST	27	45	4.00	299.00	85.00	111.16
9	Grass	PAOB	9	27	0.00	12.00	3.80	4.49
10	Grass	HIMU2	9	27	1.00	24.00	12.20	8.52
16	Grass	BOBR	0	18	0.00	24.00	9.00	8.90
23	Grass	MUAR2	9	27	0.00	1.00	0.33	0.47
26	Grass	SCBR2	9	27	0.00	5.00	2.33	2.05
29	Grass	ERPU8	9	27	30.00	31.00	30.50	0.50
29	Grass	SPNE	9	27	0.00	2.00	1.33	0.94
30	Forb	CROTO	27	63	3.00	5.00	4.00	1.00
30	Forb	CRPO5	27	63	0.00	2.00	0.67	0.94
30	Forb	MELE2	27	63	0.00	1.00	0.33	0.47
32	Forb	LEFE	27	63	0.00	1.00	0.33	0.47
34	Forb	AAFF	27	63	0.00	16.00	6.80	6.49
35	Forb	LEMO2	9	27	0.00	8.00	2.67	3.77
35	Forb	PPFF	9	27	1.00	3.00	2.00	1.00
39	Shrub	ATCA2	9	27	0.00	11.00	5.20	4.96
41	Shrub	GUSA2	9	27	18.00	122.00	69.60	35.25
44	Shrub	COCA17	9	27	0.00	1.00	0.33	0.47
44	Shrub	PRGL2	9	27	0.00	156.00	41.00	57.92

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
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Production Lbs/Acre Trends

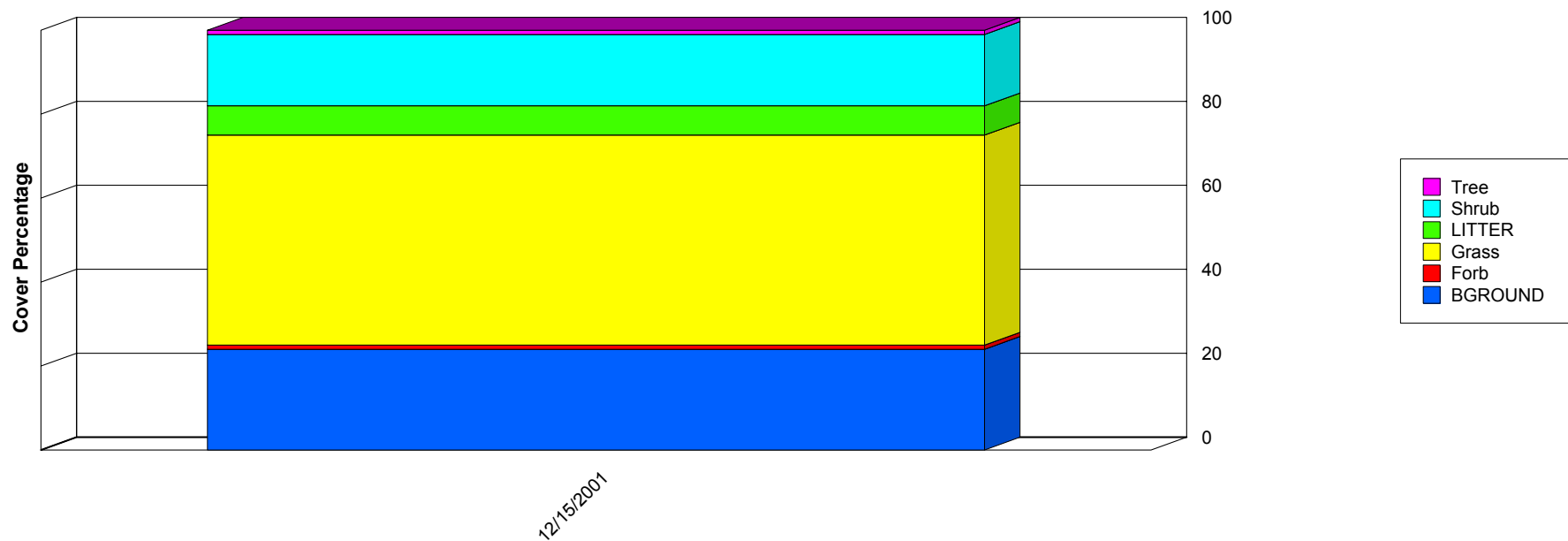


	11/29/1984	11/1/1988	10/4/1989	4/20/1995	3/12/2002
Forb	25.00	1.00	19.00	5.00	28.00
Grass	103.00	893.00	338.00	802.00	108.00
Shrub	146.00	92.00	94.00	221.00	34.00
Total	274.00	986.00	451.00	1,028.00	170.00

Report Parameters

SITE NAME LIKE 65024-NORTH-D054
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002

Ground Cover Trends

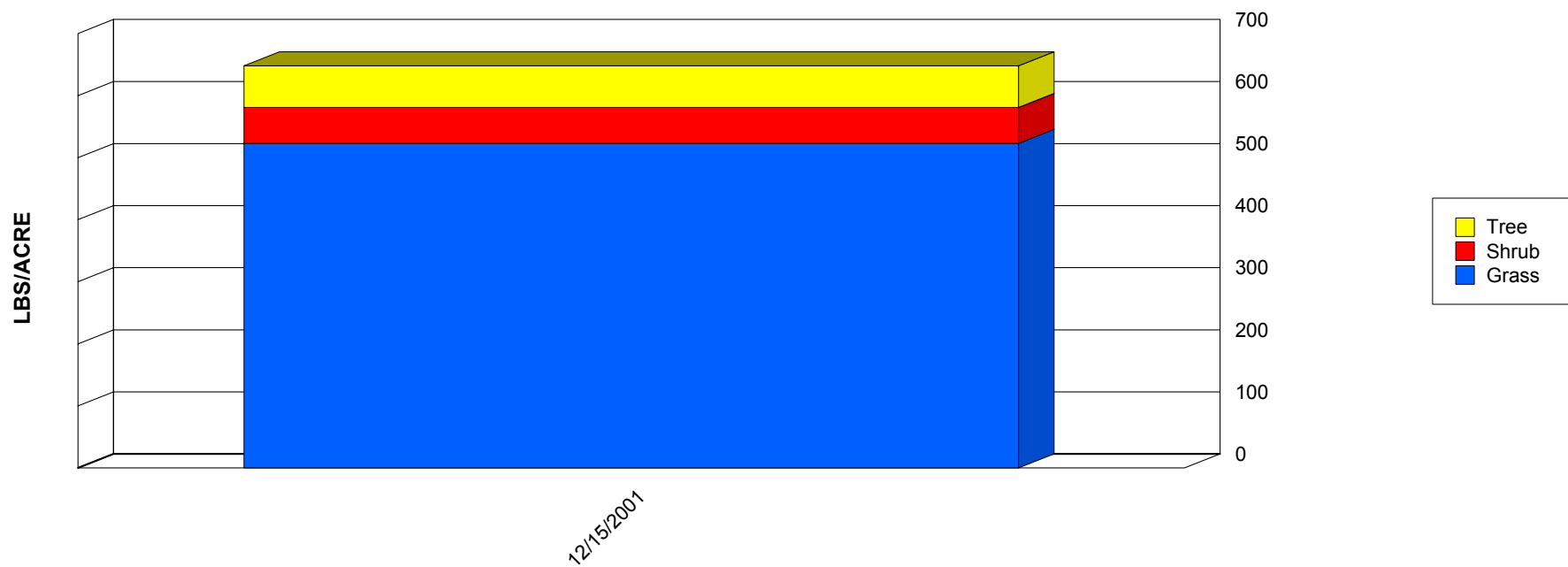


	12/15/2001
BGROUND	24.00
Forb	1.00
Grass	50.00
LITTER	7.00
Shrub	17.00
Tree	1.00
Total	100.00

Report Parameters

SITE NAME LIKE	65024-NORTHWEST-N008
ON/AFTER	10/01/1980
ON/BEFORE	09/30/2002

Production Lbs/Acre Trends

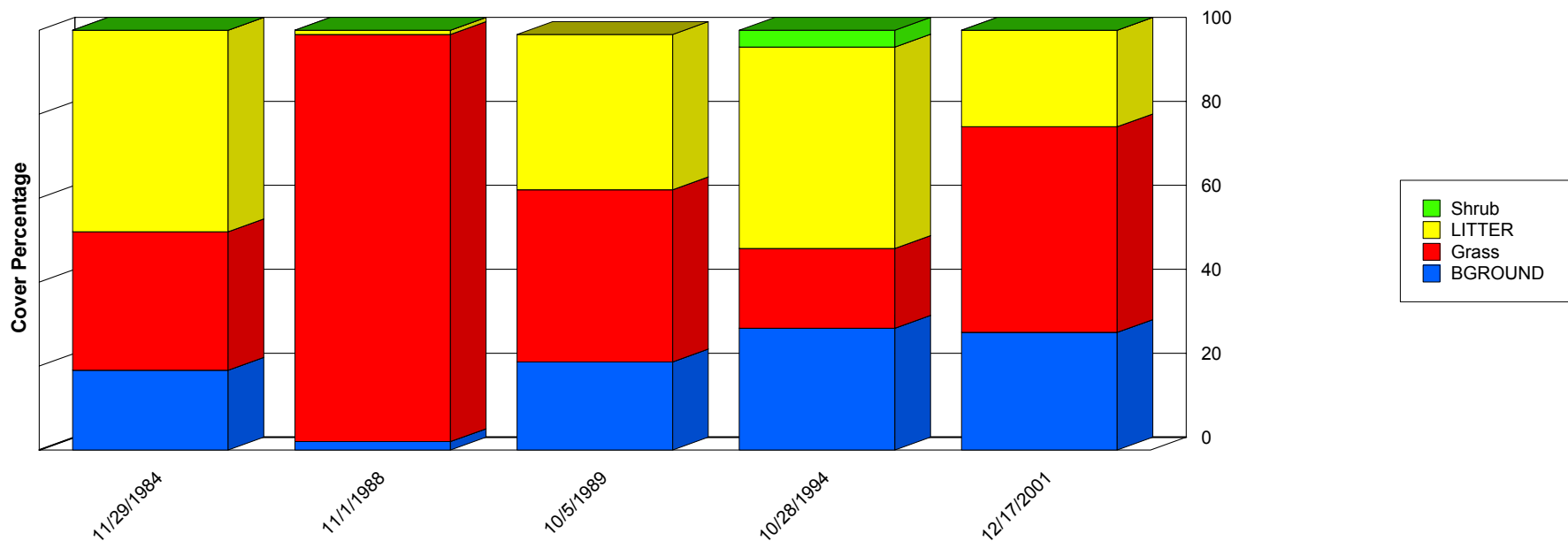


	12/15/2001
Grass	523.00
Shrub	58.00
Tree	67.00
Total	648.00

Report Parameters

SITE NAME LIKE 65024-NORTHWEST-N008
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002

Ground Cover Trends



	11/29/1984	11/1/1988	10/5/1989	10/28/1994	12/17/2001
BGROUND	19.00	2.00	21.00	29.00	28.00
Grass	33.00	97.00	41.00	19.00	49.00
LITTER	48.00	1.00	37.00	48.00	23.00
Shrub	0.00	0.00	0.00	4.00	0.00
Total	100.00	100.00	99.00	100.00	100.00

Report Parameters

SITE NAME LIKE 65024-RIVER #1-D053
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002

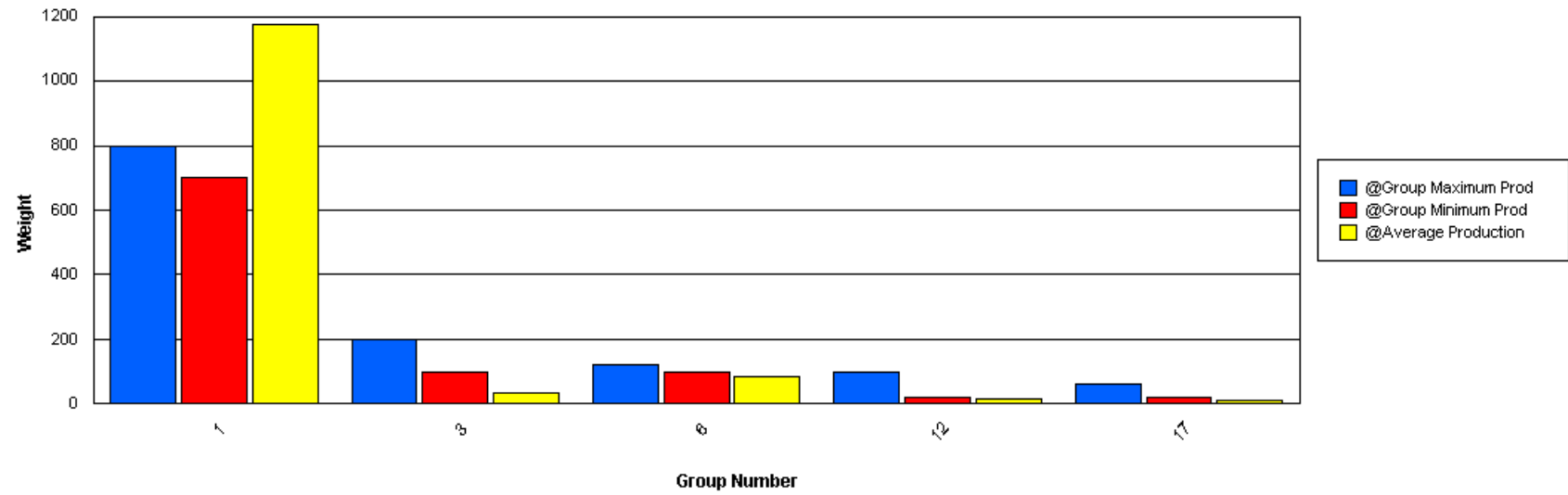
Functional / Structural Groups

Report Parameters

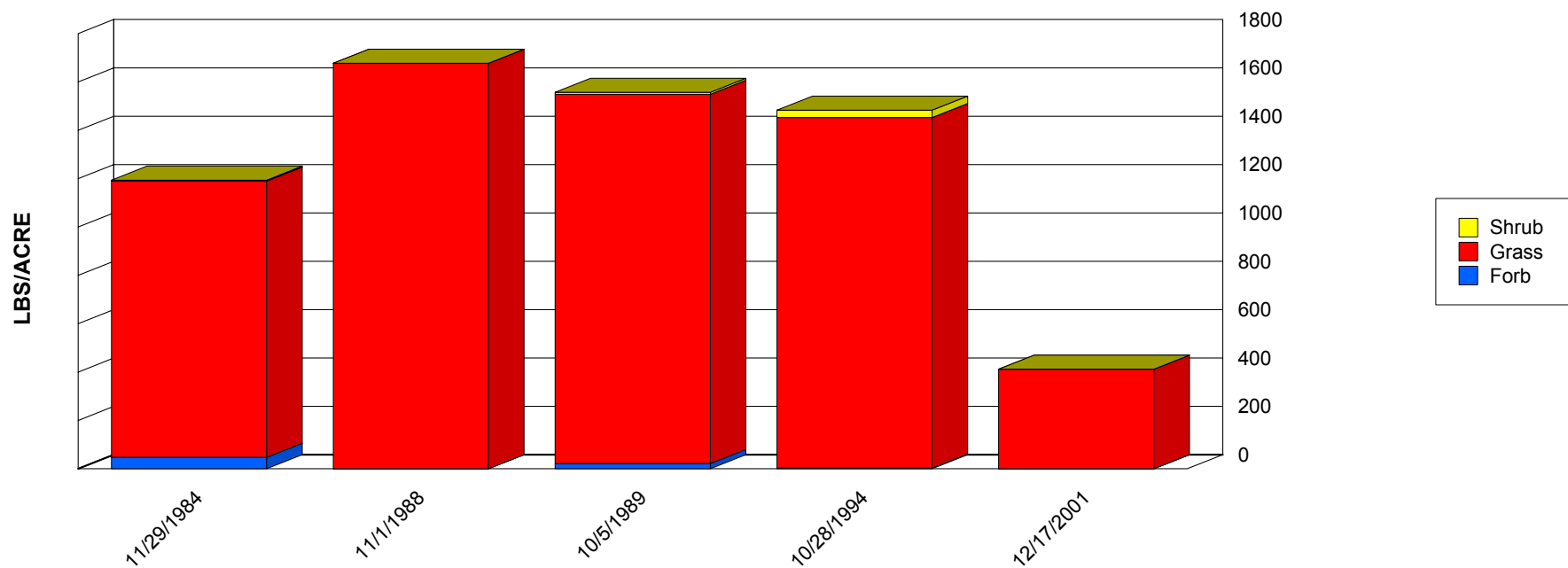
SITE NAME LIKE 65024-RIVER #1-D053
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002
 MIN LBS TO GRAPH 3
 SELECTED ECOSITE 042CY033NM

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
1	Grass	SPAI	700	800	412.00	1,532.00	1,177.80	407.58
3	Grass	HIMU2	100	200	17.00	48.00	32.50	15.50
6	Grass	BOGR2	100	120	0.00	40.00	20.00	20.00
6	Grass	MUAR	100	120	0.00	30.00	10.00	14.14
6	Grass	PAHA	100	120	0.00	105.00	52.50	52.50
12	Forb	AAFF	20	100	0.00	48.00	13.25	20.17
17	Shrub	PRGL2	20	60	0.00	30.00	8.50	12.52

Group	Plant Type	Species	Low Wt Allowed	High Wt Allowed	Minimum	Maximum	Average	STDEV
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Production Lbs/Acre Trends

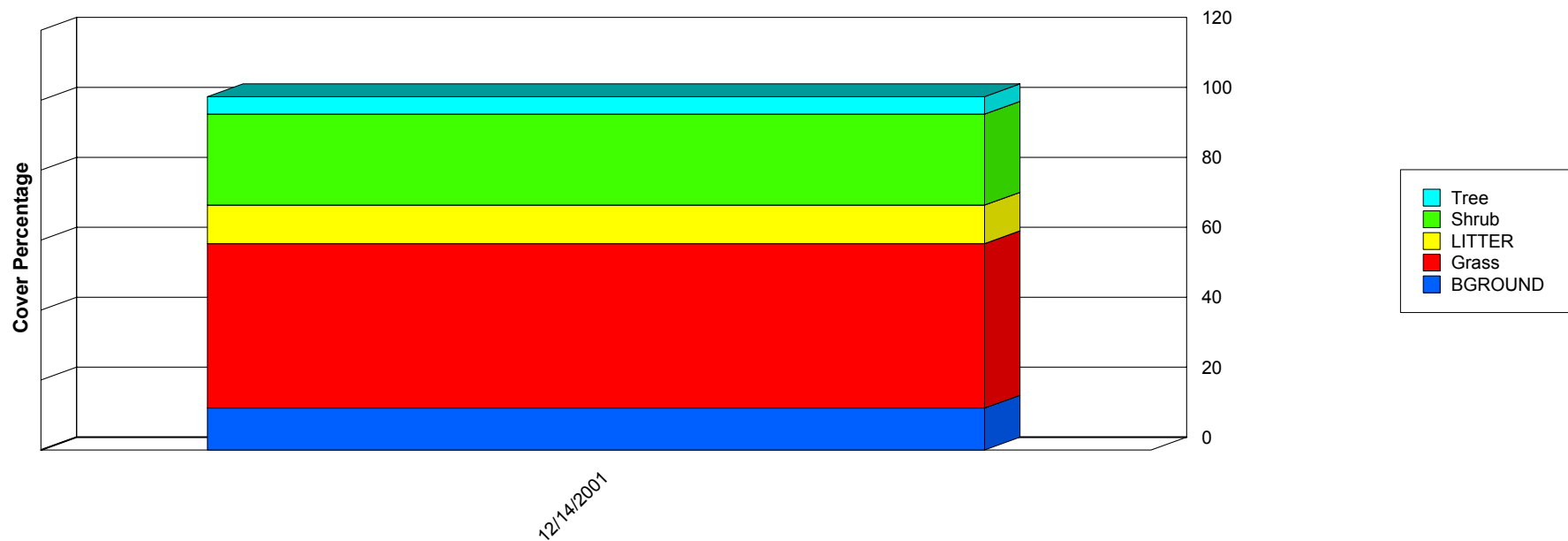


	11/29/1984	11/1/1988	10/5/1989	10/28/1994	12/17/2001
Forb	48.00	0.00	22.00	3.00	0.00
Grass	1,142.00	1,677.00	1,527.00	1,450.00	412.00
Shrub	4.00	0.00	8.00	30.00	0.00
Total	1,194.00	1,677.00	1,557.00	1,483.00	412.00

Report Parameters

SITE NAME LIKE 65024-RIVER #1-D053
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002

Ground Cover Trends

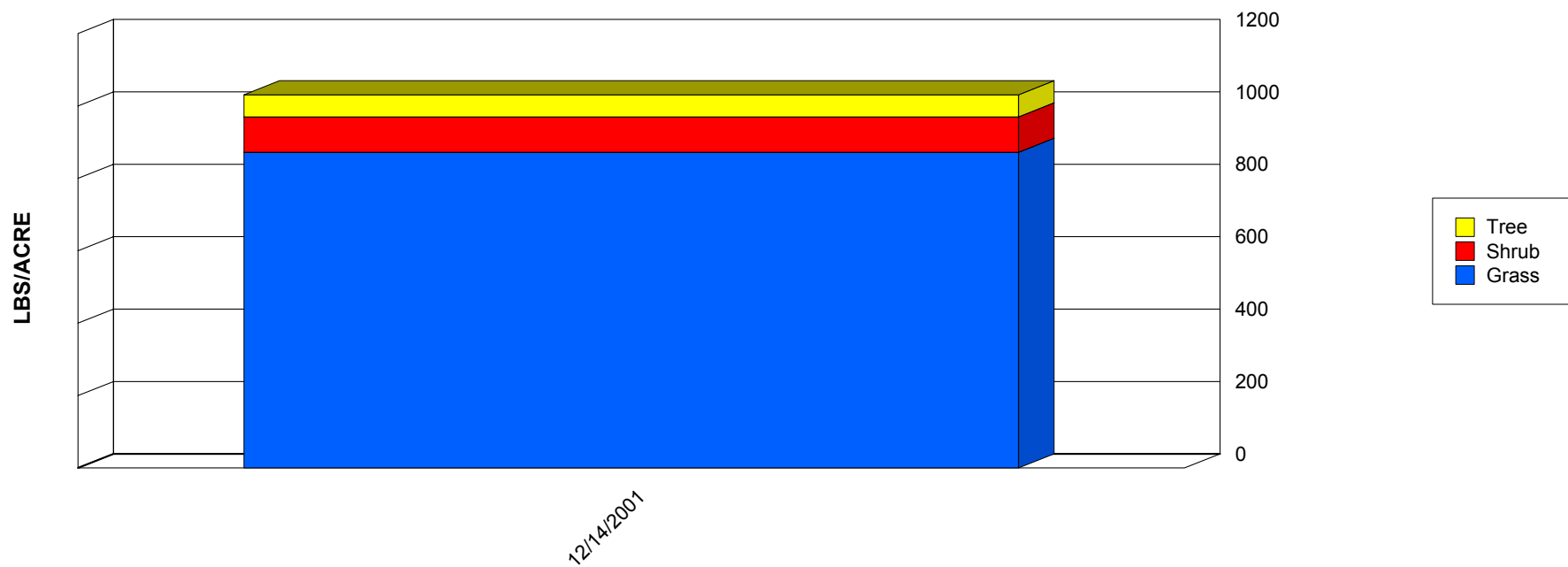


	12/14/2001
BGROUND	12.00
Grass	47.00
LITTER	11.00
Shrub	26.00
Tree	5.00
Total	101.00

Report Parameters

SITE NAME LIKE 65024-RIVER #2-N007
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002

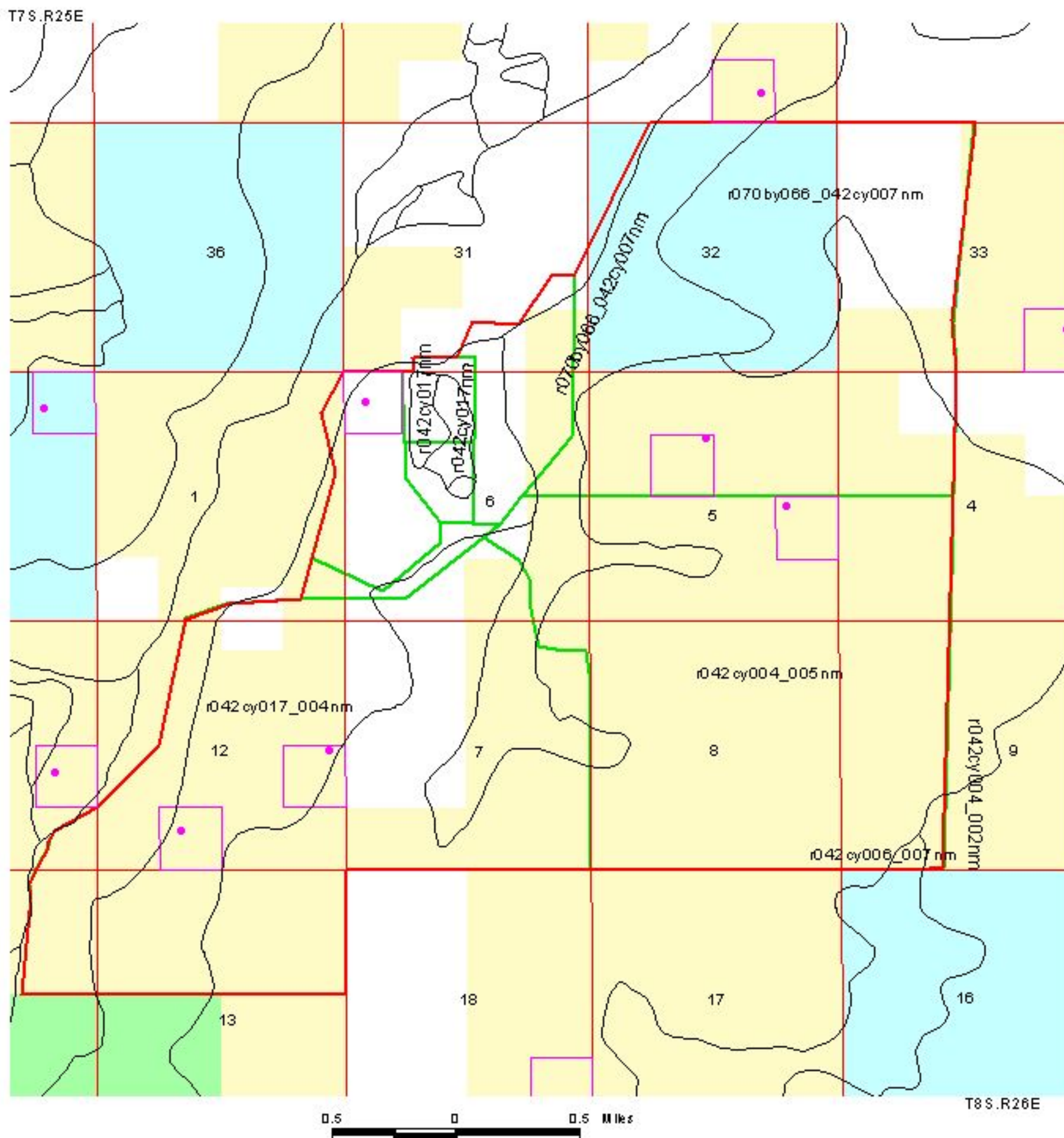
Production Lbs/Acre Trends



	12/14/2001
Grass	872.00
Shrub	98.00
Tree	61.00
Total	1,031.00

Report Parameters

SITE NAME LIKE 65024-RIVER #2-N007
 ON/AFTER 10/01/1980
 ON/BEFORE 09/30/2002



Study Locations



Four S



Pasture Boundary



Ecological Sites



Allotment Boundary

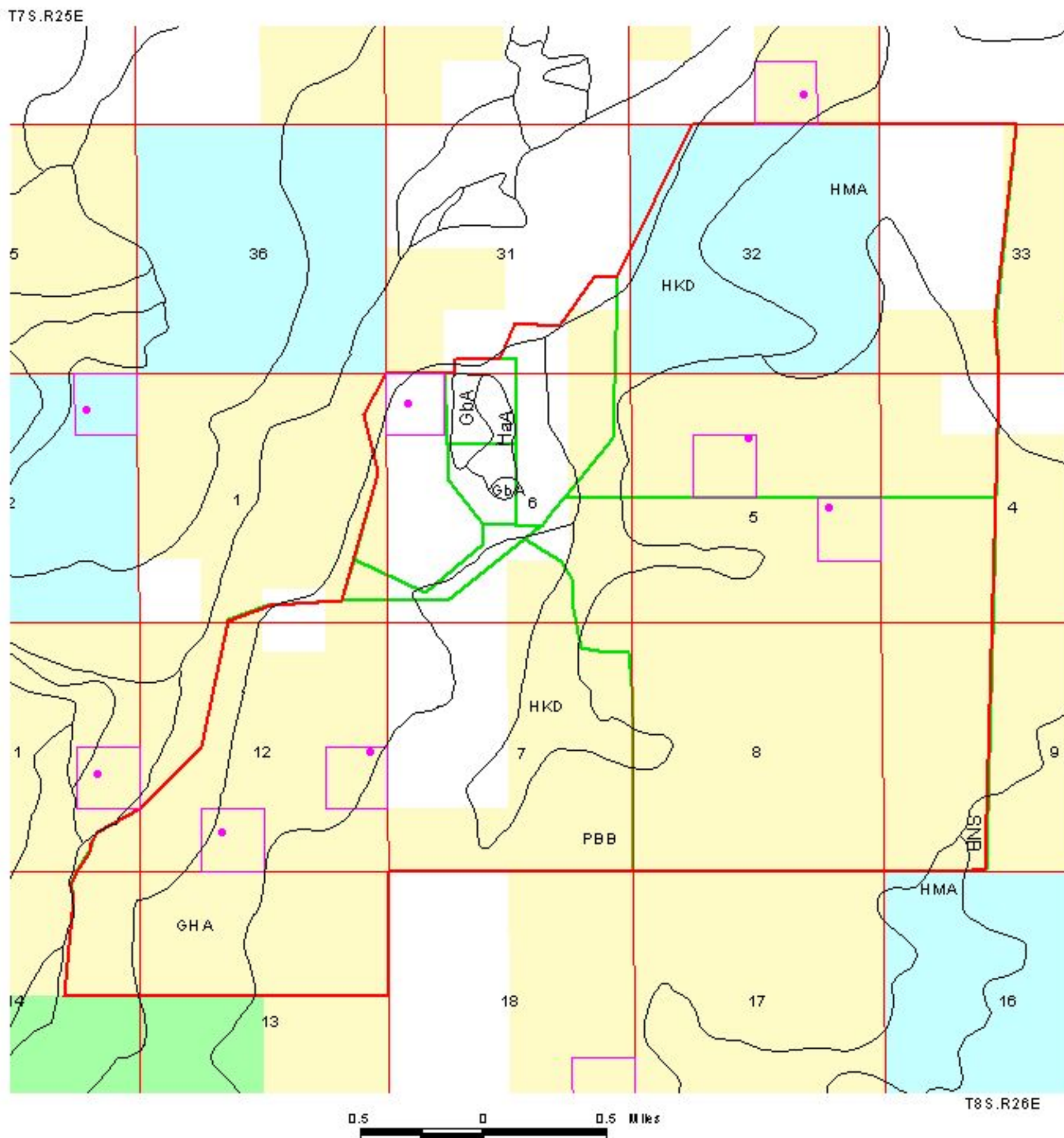
Produced by the Roswell Field Office
GIS Intern on July 3, 2003.

His laboratory is one of the few centers of Latin American research in the country, and he has developed a special interest in the history of education in Latin America, particularly in the area of the development of the school system. He has published several books and articles on these subjects. He is also a member of the National Academy of Sciences and the National Academy of Education.



Rangeland Health Assessment Soil Sampling Units

Allotment 65024



Public



State



Study Locations



Private



FWS



Study Plots



Pasture Boundary



Soil Sampling Units



Allotment Boundary

Produced by the Roswell Field Office
GIS Intern on July 3, 2003.

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